

REMARKS

This answer is in response to the non-final Office Action dated 06/27/2007. Claims 1-28 were rejected in this Office Action.

Claims 1, 11, 13, and 16-18 were rejected under 35 U.S.C. 102(b) as being anticipated by Tsukune, et al. (European Patent Application 0 387 656 A1). Claims 2-4, 14, 24 and 25 were rejected under 35 U.S.C. 103(a) as obvious over Tsukune (0 387 656 A1) in view of Ravi (US 5,952,060). Claims 9 and 28 were rejected under 35 U.S.C. 103(a) as being obvious over Tsukune in view of Mahorowala, et al. ("Tunable Anti-Reflective Coatings with Built-In Hard Mask Properties Facilitating Thin Resist Processing," Proceedings of SPIE (4343) : 306-316, 2001, hereafter Mahorowala). Claim 8 was rejected under 35 U.S.C. 103(a) as being obvious over Tsukune in view of Ravi and further in view of Mahorowala. Claims 10, 12, and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukune in view of Hashizume, et al. (US 6,410,102, hereafter Hashizume). Claims 5-7 were rejected under 35 U.S.C. 103(a) as being obvious over Tsukune in view of Ravi, and further in view of Hashizume. Claims 19-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukune in view of Law, et al. (US 4,960,488, hereafter Law). Claims 22, 23, and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukune in view of Kuwada, et al. (US 2002/0029748A1, hereafter Kuwada).

CLAIM REJECTIONS – 35 U.S.C. § 102(b)

A claim is anticipated only if each and every element of the claim is found in a single reference. M.P.E.P § 2131 (citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (Fed. Cir. 1987)). "The identical invention must be shown in as complete detail as is contained

in the claim.” M.P.E.P. § 2131 (citing *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1989)). Claims 1, 11, 13, and 16-18 were rejected under 35 U.S.C. 102(b) as being anticipated by Tsukune, et al. (EP 0 387 656 A1).

Claim 1 as amended in the application is directed to [a] method for operating a plasma enhanced chemical vapor deposition (PECVD) system “*to reduce wafer to wafer film thickness uniformity*,” the method comprising performing a chamber seasoning process comprising a chamber cleaning process and a chamber pre-coating process wherein the chamber cleaning process uses a “*remote plasma device, a first RF source, and a second RF source to form a plasma in a processing chamber*” with a fluorine-containing gas, an oxygen-containing gas, or an inert gas, or a combination of two or more thereof, and wherein the chamber pre-coating process uses a silicon-containing precursor, a carbon containing precursor, or an inert gas, or a combination of two or more thereof, positioning a substrate on a substrate holder in the processing chamber, depositing a film on the substrate, wherein a processing gas comprising a precursor is provided to the processing chamber during the deposition process, removing the substrate from the processing chamber, and “*measuring the film on the substrate using an integrated metrology module configured to measure wafer film thickness.*”

Claims 1 as amended is patently distinguishable over the *Tsukune* reference. The amended claim 1 includes the use of a remote plasma device, a first RF source, and a second RF source to form a plasma in a processing chamber. Further, claim 1 has been amended to include the use of an integrated metrology module to measure wafer film thickness. The *Tsukune* reference fails to anticipate the requirements of amended claim 1. Because the *Tsukune* reference fails to teach all claim limitations of claims 1, this claim is not anticipated by the *Tsukune* reference under 35 U.S.C. 102(b). The dependent claims 11, 13, and 16-18 are similarly not anticipated by the

Tsukune reference under 35 U.S.C. 102(b) as they incorporate limitations from independent claim 1.

CLAIM REJECTIONS – 35 U.S.C. § 103(a)

Claims 2-4, 14, 24 and 25 were rejected under 35 U.S.C. 103(a) as obvious over *Tsukune* (0 387 656 A1) in view of Ravi (US 5,952,060). Claims 9 and 28 were rejected under 35 U.S.C. 103(a) as being obvious over *Tsukune* in view of Mahorowala, et al. (“Tunable Anti-Reflective Coatings with Built-In Hard Mask Properties Facilitating Thin Resist Processing,” Proceedings of SPIE (4343) : 306-316, 2001, hereafter Mahorowala). Claim 8 was rejected under 35 U.S.C. 103(a) as being obvious over *Tsukune* in view of Ravi and further in view of Mahorowala. Claims 10, 12, and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Tsukune* in view of Hashizume, et al. (US 6,410,102, hereafter Hashizume). Claims 5-7 were rejected under 35 U.S.C. 103(a) as being obvious over *Tsukune* in view of Ravi, and further in view of Hashizume. Claims 19-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Tsukune* in view of Law, et al. (US 4,960,488, hereafter Law). Claims 22, 23, and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Tsukune* in view of Kuwada, et al. (US 2002/0029748A1, hereafter Kuwada).

Claims 2-4, 14, 24, and 25 as amended are patently distinguishable over *Tsukune* in view of *Ravi*. As indicated in amended independent claim 1 and incorporated in the dependent claims, limitations have been added to [a] method for operating a plasma enhanced chemical vapor deposition (PECVD) system “to reduce wafer to wafer film thickness uniformity,” the method comprising performing a chamber seasoning process comprising a chamber cleaning process and a chamber pre-coating process wherein the chamber cleaning process uses a “remote plasma

device, a first RF source, and a second RF source to form a plasma in a processing chamber” with a fluorine-containing gas, an oxygen-containing gas, or an inert gas, or a combination of two or more thereof, and wherein the chamber pre-coating process uses a silicon-containing precursor, a carbon containing precursor, or an inert gas, or a combination of two or more thereof, positioning a substrate on a substrate holder in the processing chamber, depositing a film on the substrate, wherein a processing gas comprising a precursor is provided to the processing chamber during the deposition process, removing the substrate from the processing chamber, and “measuring the film on the substrate using an integrated metrology module configured to measure wafer film thickness.”

The *Ravi, Mahorowala, Hashizume, Law, and Kuwada* references fail to teach all claim limitations of amended claim 1. Because *Miyashita, Johnson, Takashi, and Knight* fail to teach all claim limitations of amended claim 1, a prima facie case of obviousness has not been established for independent claim 1 and dependent claims 2-28.

Given the above remarks, independent claim 1 is now in condition for allowance. The dependent claims 2-28 are similarly in condition for allowance as they incorporate limitations from independent claim 1. In light of the comments above, the Applicant respectfully requests the allowance of the amended claims.

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at 480-539-2104 or by email at scott.lanc@us.tel.com.

Charge Deposit Account

Please charge our Deposit Account No. 50-3451 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

Date: 09/27/07

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